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Market Association Tests and FASB Statement No. 33 Disclosures: Some Optimistic Results

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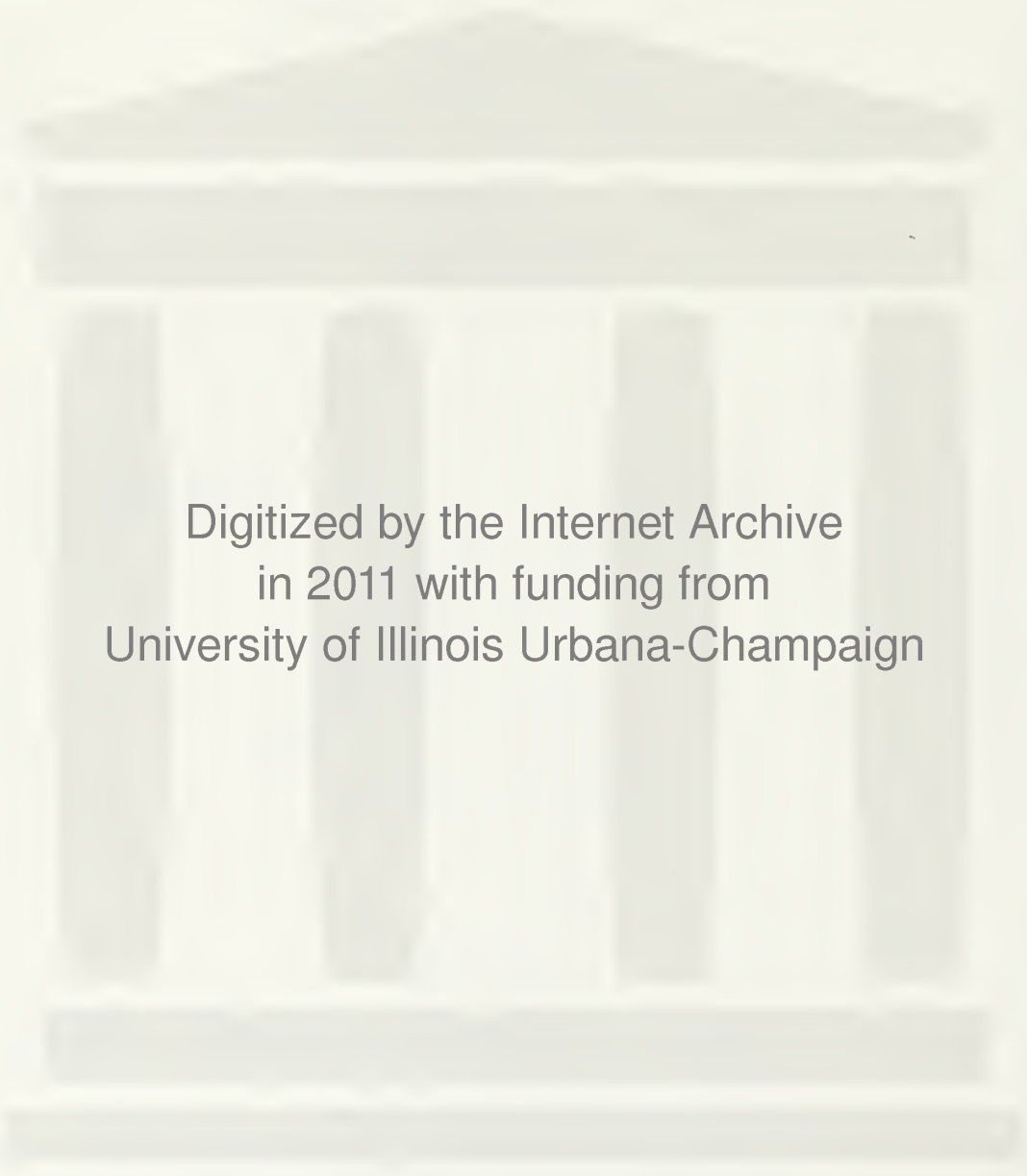

ABSTRACT

MARKET ASSOCIATION TESTS AND FASB STATEMENT NO. 33 DISCLOSURES--- SOME OPTIMISTIC RESULTS.

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Although the FASB Statement No. 33 Data Bank has been available to researchers for only about two years, both accounting policymakers and researchers seem already convinced that the FASB Statement No. 33 disclosures add very little to the information provided by historical cost data. Beaver and Landsman(1) performed a variety of tests using data for 1979 through 1981. They state that "The finding of no additional information content to Statement 33 earnings variables is clear-cut and dramatic... None of the Statement 33 variables is able to show consistently significant additional explanatory power over the three-year interval, 1979 through 1981." (1, p 1-16).

The purpose of the study is to provide another analysis of associations between security price variables and Statement No. 33 (and historical cost) earnings variables. We start by attempting to replicate the results of Beaver and Landsman(1). With a few exceptions, our results are equivalent to their results when using their approach. We then employ a new methodology which is designed to overcome certain weaknesses in the earlier study related to measurement of variables, treatment of extreme observations, and measurement of incremental explanatory power.

Applying the new methodology to ASR No. 190 data, we again conclude that the disclosures provide little explanatory power beyond that provided by historical cost earnings. However, the results for the Statement No. 33 variables for 1980 through 1982 indicated highly significant incremental explanatory power for a variety of earnings variables. While the results are not entirely consistent for a given variable from year-to-year, we conclude that this is due to a high degree of multicollinearity among some of the Statement No. 33 variables.

Garbled data and a learning effect yet to be realized are rationalizations given for the previously assumed lack of explanatory power for Statement No. 33 variables, results that are not consistent with theory. Based on our results, such rationalizations are no longer necessary. While a variety of improvements are obviously possible and needed regarding the Statement No. 33 disclosures, it does appear that the disclosures are consistent with the information the market is using to establish security prices.

References

Beaver, William H. and Landsman, Wayne R. "Incremental Information Content of Statement 33 Disclosures," FASB Research Study, Fourth Draft: August, 1983.

Market Association Tests and FASB Statement No. 33 Disclosures--Some Optimistic Results

I. Introduction

Although the FASB Statement No. 33 Data Bank has been available to researchers for only slightly over two years, both accounting policy-makers and researchers seem already convinced that the FASB Statement No. 33 disclosures add very little to the information provided by historical cost data. Beaver and Landsman (1983) performed a variety of tests using data for 1979 through 1981. They state that "The finding of no additional information content to Statement 33 earnings variables is clear-cut... None of the Statement 33 variables is able to show consistently significant additional explanatory power over the three-year interval, 1979 through 1981." (p. 11).

Freeman and Griffin (1983) begin a recent paper thusly: "This paper comments on the now well documented result that mandated firm-specific changing prices information has had no measurable effect on securities market prices and, by implication, on investors' and creditors' forecasts of future enterprise cash flows." (p. 1). Furthermore, a high ranking FASB official, when asked by us to comment on the results of the research, stated that the results are not surprising since few financial analysts and other market participants are using the data.

The purpose of this study is to partially replicate and then extend the Beaver and Landsman (BL) analysis of associations between security price variables and Statement No. 33 (and historical cost) earnings variables. Our first emphasis on replicating BL is motivated by the importance of the research topic and the seemingly widespread

acceptance of the BL conclusion of no significant incremental explanatory power for the Statement No. 33 variables--results that seem contrary to theory. The replication and extension is further motivated by the heavy reliance of BL on the results of their previous research concerning A.S.R. No. 190 data (e.g., Beaver, Griffin and Landsman (1982)).

The emphasis in our study is primarily on methodology and empirical results. We acknowledge the depth of theory expounding the merits of current cost measurements during periods of inflation. BL have done a good job of summarizing the body of theory, and it is not our primary objective to add to this literature at the present time.

The rest of the paper is organized into three sections. Part II discusses a variety of experimental design and measurement issues. These issues are important because many of the alternatives we suggest were not examined by BL (due to "cost-benefit" considerations) and yet they do affect the results.

Part III presents the methodology and our test results. We start by attempting to replicate the results of BL. With a few exceptions, our results are equivalent to their results when using their approach. We then employ different approaches which are designed to overcome certain weaknesses in the earlier study related to measurement of variables, treatment of extreme observations, and measurement of incremental explanatory power. Applying the different approaches to ASR No. 190 data, we again conclude that the disclosures provide little explanatory power beyond that provided by historical cost earnings. However, the results for the Statement No. 33 variables for 1980, 1981, and 1982 indicate

highly significant incremental explanatory power for a variety of earnings variables. Although the results are not entirely consistent for a given variable from year-to-year, we conclude that this is due to a high degree of multicollinearity among many of the Statement No. 33 variables. Also, tests constructed using significant variables from prior years in association tests for 1981 and 1982 indicate significant incremental explanatory power. Our conclusions and suggestions for further research appear in Part IV.

II. Methodological Issues

In this section, we raise a number of methodological issues that impact both BL's and our results. The discussion is classified into sections dealing with design and variable measurement issues.

A. Design

The cross-sectional regression methodology employed by BL has not been widely used in market association studies. Most early studies were concerned with univariate relationships and there was little need for an approach that could accommodate multiple variables. However, multiple regression has been used in recent studies concerned with the incremental explanatory power of SEC and FASB current cost disclosures, e.g., Bublitz (1982), Beaver, Griffin and Landsman (1982), and Lustgarten (1982).

Of course, the regression approach is not without problems. In the present context, the main problem is multicollinearity; that is, the current cost and historical cost variables are likely to contain some common information about the firm's relative performance (such as sales)

making it difficult to determine which information set the market is using. However, multicollinearity is a weak excuse for advocates of current cost accounting, for if, at the limit, the current cost variables are perfectly correlated with historical cost variables, there are no compelling reasons for the current cost disclosures.

In the Beaver, Griffin, and Landsman (1982) and BL studies, the multicollinearity issue is dealt with by employing what is referred to as a "two-stage" approach. Under the two-stage approach, in the first stage an historical cost variable is regressed on a current cost variable to obtain a residual (Z) that is uncorrelated with the current cost variable. In the second stage, the security return metric is regressed on the current cost variable and Z. Some may infer that this approach somehow solves the multicollinearity problem. However, Kennelley, King, and Schaefer (1984) have shown that the regression coefficients (and t-values) for the current cost variables under this two-stage approach are exactly the same as those that would be obtained had a single equation, multiple regression been used. While the two-stage approach does no harm, from a technical standpoint, it does tend to confuse things and we believe it causes BL to pay too much attention to individual coefficients when evaluating results.

In the presence of multicollinearity, it is difficult (perhaps fruitless) to evaluate results based on individual coefficients. Instead, evaluations are more appropriately based on an analysis of incremental explanatory power (R^2). In this regard, we note that even the BL results show some evidence of incremental explanatory power for current cost variables. For instance, in the BL Table 18, the R^2 goes up in

two of three years using POSTP as the second-stage variable. And again, in their Table 19 multivariate results, we see increases in R^2 in two out of three years.

In examining incremental explanatory power, one of the several approaches we use is stepwise regression. Under this approach, only those variables that add to the explanatory power of the regression are considered. The approach has the potential for reducing the multicollinearity problem somewhat compared to the BL multivariate approach in BL Table 19 where all candidate variables are included.

But the most practical way of dealing with multicollinearity is by eliminating colinear variables. In Section III we pursue this approach by investigating the effects of those Statement No. 33 variables that do not have historical cost counterparts--specifically, holding and purchasing power gain or loss variables. In theory, these variables (when deflated) should not have any special relationship with historical cost income but should provide incremental information to the market.

B. Variables

Several important issues must be addressed concerning the measurement of dependent and independent variables used in the regressions.

1. Dependent Variables

The BL total return metric has the potential to suffer from two problems. First, the use of a calendar year total return metric is likely to bias the results against the Statement No. 33 variables. Since quarterly income statements and other sources of historical cost

results are widely available to the market prior to December 31, one should expect a strong association with historical cost earnings for a December 31 metric. While macroeconomic-type current cost information is widely available to the market throughout the year, the primary source of current cost information for individual firms is the annual report which is not available for most firms until February or March. BL are aware of this potential bias but rely on the earlier results of BGL to justify their choice of metric. But we are uncomfortable with relying on the results of studies based on ASR No. 190 data.

Second, it is more appropriate to use the market residual approach to examine associations with unexpected earnings components. In our opinion, the cost of comparing the results of different market return metrics is trivial given the importance of the questions examined. We therefore present comparative results for the BL total return metric, a total return metric running from April through March, and cumulative average residuals (CARs) also summed from April through March.

2. Independent Variables

a. Form of variable

The market reaction to the earnings variable should be based on the unexpected component of earnings. However, due to the absence of a long time series of data, ad hoc expectation models must be used to derive the unexpected portion of earnings. BL used two forms of vari-

ables in their study, percentage change and rate of return forms as follows:

$$Pxxx(t) = [xxx(t) - xxx(t-1)]/xxx(t-1) \quad (1)$$

and

$$Rxxx(t) = xxx(t)/yyy(t) \quad (2)$$

where:

P = percentage

R = rate of return

xxx = an earnings variable

yyy = a capital (rate of return) base.

BL restricted the use of the return form to their POST and POSTP variables and used the percentage change form for all other variables because of a priori assumptions apparently not tested empirically.

A problem with the percentage form is that, not infrequently, large percentages--sometimes in excess of one hundred percent, may arise. These large percentages can result in the regression results being dominated by a few observations. Secondly, either xxx(t) or xxx(t-1) may be negative. This results in variables that may be poor proxies for the market's assessment of unexpected earnings. In summary, the cross-sectional distributional properties of the percentage variables are not very "nice."

BL dealt with these problems by deleting observations with negative denominators or whose absolute value was greater than 300 percent. However, given the mean values of the earnings variables, deletion at 300 percent is not very conservative. In Section III, we investigate

the effects of deleting at 300 percent versus truncating at a more reasonable 100 percent and find that results are somewhat sensitive to this decision.

The rate of return form of the earnings variable is not as likely to suffer from the above problems and has the additional benefit of being a widely accepted measure of performance. However, again the relevant variable should be the unexpected portion of the rate of return. Therefore, we introduce a third form of variable, the difference in rate of return:

$$DR = Rxxx(t) - Rxxx(t-1) \qquad (3)$$

b. Choice of denominator for rate of return variables

As Table 1 shows, a large number of possibilities exist.

Table 1

Possible Denominators for Rate of Return Variables

	Beginning	Average	Ending
Total Assets			
Historical Cost			
Constant Dollar			
Current Cost			
Mixed			
Market Value			
Common Stockholders' Equity			
Historical Cost			
Constant Dollar			
Current Cost			
Mixed			
Market Value			

Several issues arise here. First, the stockholders' equity denominators are preferred over total assets since they result in a return on

common equity calculation. However, the FASB has included preferred stock in the constant dollar and current cost equity amounts thus creating some noise and making it advantageous to use total assets instead. Second, tradeoffs are involved in choosing between beginning, average, and ending values. In theory, beginning or average values should be used since these amounts represent the base used to generate the income. Ending values are not available to the market during the association test period. Furthermore, our preliminary tests yielded weaker results for ending values. We note that BL used ending amounts for their POST and POSTP variables and this choice may have weakened the test results. A disadvantage of beginning amounts is that tests must be restricted to 1981 since beginning 1980 is the oldest denominator available for a large sample.[1] A third point is that it seems desirable that a denominator should be consistent with its numerator in terms of historical cost, current cost, etc., so as to avoid possibly biasing results. We note that market value denominators have the potential for a particular type of bias since market value would be a component of both the dependent and independent variables.

c. Total income versus per share amounts

Per share data was used by BL since previous research has shown that a reasonable expectations model for earnings per share is a random walk (e.g., Albrecht, Lookabill, and McKeown (1982) or Watts and Leftwich (1982)). The use of per share data (as opposed to total earnings) has the additional advantage of reducing noise associated with changes in total earnings due to, for example, acquisitions

financed by the issuance of shares. Consistent with BL, we use shares from the primary earnings per share calculation.

C. Sample Selection Issues

An important issue concerns the accuracy (correspondence with annual report numbers) of the data. We note that BL had access to the earliest version of the tape and therefore their results are more susceptible to the effects of errors than are more recent studies. In assessing the accuracy of the FASB Statement 33 Data Bank, we have relied on the work of Stone and Bublitz (1983) and our own additional checking of the data against annual reports. We have found and reported a variety of errors to the FASB. A list of errors is provided in Appendix A of this study.

An important sample selection issue is whether or not to include utilities. BL list several reasons for not including utilities in the sample. The arguments are based on assessments of the appropriateness of current cost measures of performance and the manner in which utilities calculated their disclosures. There is some evidence that, as a group, utilities are having difficulty with the Lower Recoverable Amount provisions of Statement 33 and are not consistent in the methods used to calculate it. Our test results were generally weaker when utilities were included in the sample. Therefore, the results we present do not include utilities, except where inclusion is necessary to replicate BL.

Two final sample selection issues relate to restricting the sample to December 31 fiscal year-end firms and the handling of variables with negative denominators. Consistent with BL, our samples are restricted

to December 31 firms. Our results do include variables with negative denominators (except for the BL replication) unless the (small) negative denominator resulted in an outlier that we deleted based on our decision rules for handling outliers.

III. Methodology and Results

A. Overview

Our results are organized so as to highlight four major objectives of the study as follows:

1. To partially replicate the BL study and explore the sensitivity of results to choice of return metric and to deletion/truncation decisions for the percentage change variables.

2. To compare results using ASR 190 versus FASB 33 data. In doing this, we rely on a separate sample of data obtained from annual reports by Bublitz (1982).

3. To explore further the incremental explanatory power of the Statement 33 variables using the same types of variables used by BL. Under this approach multicollinearity is still a major problem and thus evaluations must be based on incremental explanatory power rather than regression coefficients. Rather than employing the BL two-stage approach, we rely on traditional multiple and step-wise regression approaches.

4. To explore the incremental information content of Statement 33 variables using a methodology designed to reduce the effects of competing variables.

B. Variable Definitions

Table 2 summarizes the variables used in the tests which follow. Note that the table is divided into four parts. Part I gives variable names for tests involving ASR 190 data. Part II lists variables used for the BL replication. Part III lists additional variables used in extending our tests of Statement 33 data. Part IV lists the variables used in our last section of empirical tests where we employ a methodology designed to limit the chances of multicollinearity.

The list of variables is long and somewhat confusing. To guide the reader, we have tried to use the same variable names that BL used whenever possible. We have also employed FASB definitions (1982 documentation) and listed the FASB or Compustat (annual) data item number in parenthesis.

Insert Table 2 about here

C. BL Replication

Tables 3 through 7 show the results of our partial replication of the BL study. Table 3 presents means and standard deviations of the return and earnings variables. Note that there is close agreement between Table 3 and the results of BL (their Table 14). The only exception is for POSTP in 1979 and 1980 where our means are substantially lower (.068 and .074 versus .20 and .16) than the BL means. We have not been able to account for these differences. However, we have checked our POSTP calculations for several firms to their annual reports and thus are reasonably certain of the accuracy of our calculations. Table 1 also shows close agreement in sample sizes in the replication. Our slightly larger sample sizes in 1979 and 1981 could be due to our using

a more recent version (1981) of the FASB data bank than used by BL or other causes. At any rate, it is clear that the small differences in sample sizes result in no major differences in results. Finally, in reviewing the BL variable definitions, we note that BL used for their cash flow variable, Compustat data item number 21, operating income before depreciation. Note that this variable ignores, among other things, cash flow from taxes. However, we examined the effects of using a better cash flow proxy, income available for common shareholders plus depreciation and amortization (Compustat data items 20 + 13). While this variable gives substantially higher means for the (percentage change) cash flow variable compared to the BL variable, it has little effect on the BL regression results.

Insert Tables 3 and 4 about here

Table 4 presents the correlations between variables and should be compared to BL Tables 15 and 16. Again, our results are, for the most part, close to the BL results. In terms of correlations with returns, we again see major differences for the POSTP variable. Table 4 also reveals the extent of the collinear relationship between the historical cost and current cost earnings variables.

Tables 5 and 6 present the first and second stage regression results and should be compared with BL Tables 17 and 18. We anticipated that our results would be stronger than the BL results for the POSTP variable. Such is not the case, however. On an overall basis, again these is substantial agreement in the two sets of results. For the POSTP variable note that our results are not quite as strong as those

obtained by BL. At best, the stage-2 t-values for the POSTP coefficients in Table 6 are marginally significant in two of three years.

Insert Tables 5 and 6 about here

At this point, we conclude that we have substantially replicated the BL results. Next, we examine the sensitivity of these results to the choice of return metric and the handling of extreme observations.

Insert Table 7 about here

Since we see no particular advantage in using the BL two-stage methodology versus the standard multiple regression technique, we will be using standard multiple regressions throughout the rest of the paper. Table 7 compares the results of using three alternative return metrics as dependent variables: cumulative average residuals (CAR's), raw returns, and BL returns. BL (calendar) returns were calculated using Compustat data while the other two return metrics employed CRSP data. For CAR's, the market model was used to estimate expectations, using as the dependent variable the most recent 60 monthly return observations through March of the test year and the CRSP value-weighted index as the independent variable. Then, CAR's were computed over the twelve month period April through March of the next year. For raw returns, the return was also calculated over the period April through March of the next year.

The Table 7 samples are based on a decision to truncate all percentage change variables in excess of 100 percent at 100 percent. For purposes of comparison, the R^2's for the BL decision rule of deleting all observations of 300 percent or is greater is also shown.

Two things are evident from Table 7. First, the procedure of truncating at 100 percent, in general, results in substantially higher R^2's than the procedure of deleting at 300 percent. This is true for all three return metrics for the 1979 and 1980 samples and also for the BL return in 1981. Secondly, the return metrics result in higher R^2's than the CAR's for these samples. Since the results appear to be somewhat sensitive to the dependent variable employed, we present both CAR and raw return results for most of our subsequent tests.

D. Comparison of ASR 190 and Statement 33 Results

In this section we compare the results of tests of ASR 190 and Statement 33 variables for 1978 through 1982. The tests are motivated by the belief that Statement 33 data is of higher quality than ASR 190 and this should lead to higher explanatory power for the Statement 33 data.

The sample is different than that used for the BL replication. Here, the sample consists of a group of firms with ASR 190 disclosures in 1978 who continued to report under either ASR 190 and Statement 33 in subsequent years. Data for the 1978 and 1979 tests of ASR 190 were gathered from annual reports by Bublitz (1982) for his dissertation. Data subsequent to 1979 were obtained from the FASB Statement 33 Data Bank. The samples are composed almost entirely of industry firms with S.I.C. codes in the 2000's and 3000's. The data has been checked to annual reports and is probably more error free than our other samples.

The results are summarized in Tables 8 and 9. To better assess incremental explanatory power, we now make use of a stepwise regression methodology. As BL note, the regression R^2 can always be increased

by adding additional variables. However, under stepwise regression, only those variables that significantly increase the explanatory power of the regression are included. Thus, stepwise regression mitigates somewhat the effects of multicollinearity by not including redundant variables. On the other hand, the procedure can be criticized due to possible search bias.

Insert Tables 8 and 9 about here

Referring first to Table 8, note that the 1978 results are not very strong. While PHC is the first variable entering the regression, its explanatory power is a relatively low 8.3 or 8.9 percent, depending on the dependent variable chosen, and the stepwise regression added only a few variables in increasing the adjusted R^2 to roughly 11 percent for the CAR case and less than 10 percent for raw returns.

In 1979, a complication is that firms had the choice of continuing to report under ASR 190 or switching to the Statement 33 disclosures. Firms reporting under Statement 33 did not report under ASR 190 in 1979. We present some results (in this case stepwise regression is not used) for a combined sample of ASR 190 and Statement 33 firms as well as separate results for a small sample of Statement 33 firms. All previously defined variable names are prefixed with an S or F to distinguish between SEC (ASR 190) and FASB (Statement 33) variables. Note that results are stronger for the Statement 33 sample than for the combined sample.[2] There are also substantial differences in the strength of results in comparing the CAR metric with raw returns. For the Statement 33 sample, note that the addition of Statement 33 variables to

regressions containing historical cost alone adds little incremental explanatory power. Thus, based on the Table 8 results, neither ASR 190 nor Statement 33 variables had incremental explanatory power in 1978 or 1979.

The 1980, 1981 and 1982 results are shown in Table 9. An advantage that the PHC variable has over Statement 33 variables, is that it is not competing with other historical cost variables. This tends to limit the opportunity for multicollinearity to affect the PHC variable. To provide a fairer test of the historical cost impact, we also include RHC and DRHC as candidate variables and thus provide the opportunity for three historical cost variables to enter the regressions.

In 1980 note that PHC explains only 17.5% and 11.9% of the variability in the respective dependent variables. However, the more interesting results show up in the stepwise regressions. Note that for both dependent variables, the DRPRE variable is first to enter the equation and has greater explanatory power than PHC alone. And when all significant variables are in the equation, explanatory power increases by large percentages over what is provided by PHC alone. Note that for the CAR metric, none of the historical cost variables entered the regression. In the case of raw returns, both DRHC and PHC enter the regression. However, the coefficient for DRHC has the wrong sign, no doubt due to its collinear relation to PHC.

In 1981, again explanatory power increases as Statement 33 variables are added to the regression. While the DRHC and RHC variables enter the stepwise regressions first, the explanatory power of the regressions are at least doubled as additional variables are added.

Note that some of these variables are historical cost variables and that PHC now has the "wrong" sign.

Before considering the 1982 test results, some comments are needed concerning the 1982 sample. In 1982, the FASB issued its Statement 70 which exempted certain companies from the constant dollar disclosure requirements of Statement 33. In general, companies exempted were large multinational firms that measure significant parts of their operations in functional currencies other than the U.S. dollar. Due to this change, note that our 1982 sample of 237 firms is somewhat smaller than the 351-firm sample for 1981.

As in 1980 and 1981, the results for 1982 are also interesting. For the CAR metric, none of the historical cost variables enter the regression. The four Statement 33 variables provide an adjusted R^2 of 24.6%. For the raw returns variable, the only significant variable is DRCF, which provides an adjusted R^2 of 17.4%.[3]

E. Additional Tests Using Large Statement 33 Sample

Table 9 provides some fairly strong evidence of the incremental explanatory power of Statement 33 variables. However, the results may be somewhat sample sensitive since they are based on relatively small samples.

In Table 10 we present results for all full data non-utility companies in the Statement 33 Data Bank. Utilities are excluded for the reasons previously mentioned. We continue to truncate all variables at 100%.

The general conclusion from Table 10 is that Statement 33 variables have significant explanatory power above that provided by historical

cost variables in 1980, 1981, and 1982. In 1979 through 1981, historical cost variables are the first variables to enter the regressions for both the CAR and raw return regressions. However, explanatory power is greatly enhanced when Statement 33 variables (and occasionally, cash-flow variables) are added to regressions. The results for 1982 are even more interesting in that no historical cost variables enter the CAR regression. For the 1982 raw returns regression, DRCD is the first variable and two historical cost variables enter the stepwise function later.

One concern with the results so far is that different Statement 33 variables are significant each year. While this result is probably due to the multicolinearity problem, such results may limit the predictive power of the models employed.

Insert Tables 10 and 11 about here

Table 11 provides additional evidence of the explanatory power of the Statement 33 data, using a procedure which emphasizes prediction. Here we use the variables found significant in 1980 as relevant variables in 1981 regressions and variables found significant in 1980 and 1981 as relevant variables in 1982 regressions. The results for the multiple regressions are compared with the results using historical cost alone. To examine the significance of the increase in R^2, an F-test is employed.

Note that the results are mixed for the two return metrics. Using CAR's as the dependent variable, there is a significant increase in explanatory power for both the 1981 and 1982 tests. However, when raw returns become the dependent variable, the results are not significant.

F. Reducing the Effects of Competing Variables

One of the problems with the preceeding tests is that the historical cost, constant dollar, and current cost variables represent competing measures of "income." Furthermore, the Statement 33 disclosures make it possible to include a large number of variables in tests and this contributes to the multicollinearity problem. A more parsimonious approach is to examine the incremental effects of just those Statement 33 variables needed to convert from historical cost to constant dollar or current cost income, i.e., the effects of holding gain or loss and purchasing power gain or loss components only.

We are also interested in knowing what components of historical cost income contribute to its explanatory power and whether or not breaking out components makes a difference. With this objective in mind, we explore the effects of breaking out the sales and expenses components of historical cost net income separately.

In this section, only return variables, as opposed to percentage change variables, are used. Further, in a crude attempt to explore the effects of different expectations models, the return variables for both the current and preceeding year, as opposed to the difference in return, are used in the regressions.

One other measurement issue should be mentioned. To eliminate the effects of any potential bias in favor of historical cost, the constant dollar and current cost return variables employ constant dollar and current cost assets as their respective denominators. Unfortunately, these denominators are only available for 1981 tests. In order to conduct tests for 1980, we employ market value denominators for all variables in that year.

Insert Table 12 about here

Table 12 shows the 1980, 1981, and 1982 correlation matrices. The most interesting result is that the sales and expenses components of the historical cost income measures are very highly correlated. In all cases, the correlations are in excess of .99. We further note that the correlations of all variables with the dependent variables, CAR's, are all somewhat low. For all three years, the highest correlations with the dependent variables are for the DHC variables. Note further that current year variables (e.g., HG81 in 1981 tests), with the exception of PPL82, are positively correlated with the dependent variable. Finally, note that there is still a substantial amount of correlation between variables so that multicollinearity may still be a problem in attempting to evaluate regression results.

Insert Table 13 about here

Table 13 shows the results of tests of the incremental explanatory power of the reduced set of Statement 33 variables. For all three years, note that there is again a substantial and statistically significant increase in explanatory power when Statement 33 variables are added to the regressions that employ historical cost variables. These results our consistent with are previous tests.[4] While again we cannot say much about the effects of individual variables due to the multicollinearity problem, the important result is that, clearly, explanatory power is greatly increased when Statement 33 variables are used.

IV. Conclusion

In this paper we have reported the results of a variety of tests of the incremental explanatory power ARS 190 and FASB Statement 33 variables. Tests were performed for various samples for the years 1978 through 1982.

For the ASR 190 variables we find no incremental explanatory power beyond that provided by historical cost income measures. This result is consistent with the results of Beaver, Griffin, and Landsman (1982). However, for Statement 33 data, we find highly significant incremental explanatory power, for a variety of samples and a variety of variables in years 1980, 1981, and 1982. Our results, and our conclusions, are contrary to the conclusions reached by Beaver and Landsman (1983).

Recently, the FASB has made the decision to continue the disclosures under Statement 33 for a subsequent test period. Given the results of this study, it appears that the Statement 33 disclosures are consistent with the information set used by the market in setting security prices. Thus, the decision to continue the disclosures seems prudent. It is clear, however, that there is still a great deal of noise in the data and further attention directed toward refining the measurement procedures also seems prudent.

Table 2

Variable Definitions

I. Variables used for SEC data:

COPE(t) = EPS(t) - EXPDIF(t) (BB:RC exp from yr t 10K-HC exp)/CSP
COPB(t) = EPS(t) - LEXPDIF(t) (BB:RC exp from yr t+1 10K - HC exp)/CSP
ASSDIF(t) = (BB:RC assets from yr t 10K - HC assets)
LASSDIF(t) = (BB:RC assets from yr t+1 10K - HC assets)
HGE(t) = ASSDIF(t) - LASSDIF(t)
HGB(t) = ASSDIF(t-1) - LASSDIF(t-1)
RCS(t) = (BB:RC ending common stock for t from yr t 10K)
RCSL(t) = (BB:RC ending common stock for t from yr t+1 10K)
PCOP(t) = (COPE(t) - COPB(t))/COPB(t)

Rxxxx(t) = xxxx(t)/RCSL(t)
    where: xxxx = HGE, COPE

Rxxxx(t) = xxxx(t)/RCSL(t-1)
    where: xxxx = HGB, COPB

RCOPCHG(t) = RCOPE(t) - RCOPB(t)

II. Variables used for BL replication:

CSP = common shares used in primary EPS calculation (CS #54)

PHC(t) = [EPS(t) (CS #58) - EPS(t-1)]/EPS(t-1)

CFBL = operating income before depreciation (CS #14)/CSP
PRE = IFCOCC (FAS #35)/CSP
PREP = (IFCOCC + PPGLCD (FAS #80))/CSP
CD = IFCOCD (FAS #32)/CSP
CDP = (IFCOCD + PPGLCD)/CSP

Pxxxx(t) = [xxxx(t) - xxxx(t-1)]/xxxx(t-1)
    where: xxxx = CFBL, PRE, PREP, CD, or CDP

POST = (IFCOCC + SPICC (FAS #83))/CSP
POSTP = (IFCOCC + PPGLCD + HGLCC (FAS #89))/CSP
NACC = NACC (FAS #101)/CSP
RPOST = POST/NACC (end of period)
RPOSTP = POSTP/NACC (end of period)

BLRET (t) = (price--close(t) (CS #24) + common dividends (t) (CS #21))/
            price--close(t-1)

Table 2

Variable Definitions
(continued)

III. Variables used for our original FAS regressions:

Redefinitions of above:
POSTP = (IFCOCC + PPGLCD + SPICC - GPICC (FAS #86))/CSP
CFPS = (income available for common (CS #20) + depreciation & amortization (CS #13))/CSP
RPOST = POST/NACC (beginning of period--except for 79)
RPOSTP = POSTP/NACC (beginning of period--except for 79)

New definitions:
NACD = NACD (FAS #98)
HCCS = common equity (CS #60)/CSP
HG = SPICC/CSP (or POST-PRE)
HGP = (SPICC - GPICC)/CSP (or POSTP-PRE)

Pxxxx(t) = (xxxx(t) - xxxx(t-1))/xxxx(t-1)
where: xxxx = HC, CFPS, PRE, PREP, POST, POSTP, CD, CDP, HG, HGP

Rxxxx(t) = xxxx(t)/yyyy(t-1)

where:	xxxx	yyyy
	HC	HCCS
	CFPS	HCCS
	PRE	NACC (use t for 1979)
	PREP	"
	POST	"
	POSTP	"
	HG	"
	HGP	"
	CD	NACD (use t for 1979)
	CDP	"

DRxxxx(t) = Rxxxx(t) - Rxxxx(t-1)
where: xxxx = HC, CFPS, PRE, PREP, POST, POSTP, CD, CDP, HG, HGP

IV. Variables used for change from HC (Bublitz's) regressions:

REHG = (EPS - PRE)*CSP (realized holding gain)
RHCSAL(t) = sales(t) (CS #12)/(CSP(t-1)*HCCS(t-1))
RHCEXP(t) = (sales(t) - EPS(t)*CSP(t))/(CSP(t-1)*HCCS(t-1))

RREHG(t) = REHG(t)/(NACC(t-1)*CSP(t-1))

MVCOM = common shares outstanding (CS #25)*price--close (CS #24)

Table 2

Variable Definitions
(continued)

NOTES:

1. CS = annual COMPUSTAT
   FAS = FAS 33 tape (numbered as in 82 documentation)
   BB = Bublitz's hand-collected data
   CRSP = CRSP tape (or index)
2. All per share numbers and numbers of shares are adjusted by CS adjustment factor.
3. Definitions given it IV are for "own denominator" variables
   a. For market value results: denominator is always MVCOM(t-1)
   b. For "all HC denominator" results: denominator is always CSP(t-1)*HCCS(t-1)
   c. For "all CC denominator" results: denominator is always CSP(t-1)*NACC(t-1)

Table 3

Return and Earnings Variables
Means and Standard Deviations

	1979		1980		1981	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
RETURN	.290	.389	.321	.375	.012	.264
HC	.205	.570	.016	.301	.045	.334
CF	.120	.279	.037	.232	.060	.264
PRE	---	---	-.227	.598	-.048	.633
POST	.258	.169	.186	.103	.165	.122
CD	---	---	-.206	.567	-.104	.593
PREP	---	---	-.152	.322	-.095	.440
POSTP	.068	.093	.074	.070	.088	.130
CDP	---	---	-.147	.323	-.121	.429
Sample Size	400		323		310	
BL Sample Size	392		323		297	

Table 4

Correlations Between Variables

1979

	RETURN	HC	CF	POST
HC	.473			
CF	.509	.661		
POST	-.027	.085	.033	
POSTP	.454	.395	.400	.098

1980

	RETURN	HC	CF	POST	POSTP	PRE	PREP	CD
HC	.465							
CF	.389	.751						
POST	.206	.196	.176					
POSTP	.367	.382	.343	.595				
PRE	.312	.706	.553	.149	.362			
PREP	.321	.727	.673	.135	.356	.811		
CD	.365	.705	.548	.075	.279	.741	.641	
CDP	.369	.726	.675	.100	.350	.658	.829	.832

1981

	RETURN	HC	CF	POST	POSTP	PRE	PREP	CD
HC	.312							
CF	.291	.764						
POST	.037	.203	.165					
POSTP	.048	.199	.165	.887				
PRE	.290	.678	.514	.089	.116			
PREP	.200	.685	.581	.218	.238	.749		
CD	.201	.606	.483	.230	.284	.675	.595	
CDP	.156	.627	.570	.257	.271	.571	.836	.794

Table 5

BL Replication
First-Stage Results

Other Earnings Variables	HC is Independent Variable			Other Earnings Variable is Independent Variable		
	1979	1980	1981	1979	1980	1981
CF	.324	.577	.604	1.350	.977	.966
	(17.6)	(20.90)	(20.82)	(32.06)	(20.40)	(74.30)
POST	.025	.067	.073	.286	.571	.547
	(1.7)	(3.6)	(3.58)	(1.7)	(3.59)	(3.59)
POSTP	.040	.065	.074	.634	.544	.493
	(3.3)	(3.4)	(3.43)	(3.3)	(3.43)	(3.43)
PRE	--	1.400	1.285	--	.355	.357
		(17.9)	(16.21)		(17.88)	(16.21)
PREP	--	.777	.905	--	.680	.520
		(19.0)	(16.57)		(18.98)	(16.57)
CD	--	1.327	1.073	--	.375	.342
		(17.86)	(13.41)		(17.84)	(13.41)
CDP	--	.779	.805	--	.676	.489
		(18.96)	(14.17)		(18.93)	(14.19)

Table 6

Second-Stage Results

	Regression Coefficient						Proportion of Variance Explained (R^2)		
	1979		1980		1981				
X_{et}	B_{1t}	B_{2t}	B_{1t}	B_{2t}	B_{1t}	B_{2t}	1979	1980	1981
CF	.324 (11.46)	1.055 (7.65)	.579 (9.50)	.277 (1.16)	.252 (5.90)	.042 (.27)	.323	.215	.096
POST	.324 (10.75)	-.162 (-1.59)	.579 (9.50)	.435 (2.40)	.252 (5.90)	-.072 (.60)	.225	.226	.097
POSTP	.324 (10.77)	.228 (1.89)	.579 (9.50)	.400 (2.22)	.252 (5.90)	-.051 (-.45)	.227	.224	.096
PRE	---	---	.579 (9.50)	-.020 (-.45)	.252 (5.90)	.060 (1.97)	---	.212	.107
PREP	---	---	.579 (9.50)	-.043 (-.51)	.252 (5.90)	-.013 (-.31)	---	.212	.096
CD	---	---	.579 (9.50)	.047 (1.03)	.252 (5.90)	.072 (2.38)	---	.214	.096
CDP	---	---	.579 (9.50)	.075 (.90)	.252 (5.90)	-.040 (-.95)	---	.214	.098
HC	---	---	---	---	---	---	---	---	---

Table 7

BL Replication
Truncation at 100%, No Negative Denominators
Comparison Using Different Dependent Variables

VARIABLE	CAR COEFF.	CAR T STAT.	RAW RETURN COEFF.	RAW RETURN T STAT.	BL RETURN COEFF.	BL RETURN T STAT.
			1979 (353 Firms)			
HC	.359	(12.00)	.383	(14.05)	.432	(12.66)
CF	.333	(4.93)	.307	(4.98)	.356	(4.62)
POST	-.076	(-1.01)	-.059	(-.87)	-.237	(-2.79)
POSTP	.631	(4.20)	.920	(6.76)	1.283	(7.50)
R^2	.345		.430		.407	
BL R^2	.247		.316		.281	
			1980 (297 Firms)			
HC	.160	(3.36)	.210	(5.18)	.569	(9.72)
CF	-.058	(-.56)	-.020	(-.22)	.108	(.84)
CD	.095	(1.01)	.052	(.66)	.209	(1.81)
CDP	-.229	(-1.46)	-.084	(-.63)	-.196	(-1.02)
PRE	-.077	(-.80)	-.047	(-.57)	-.131	(-1.10)
PREP	.264	(1.83)	.117	(.95)	.030	(.17)
POST	-.033	(-.08)	-.342	(-1.03)	-.058	(-.12)
POSTP	-.544	(-1.18)	.416	(1.06)	1.244	(2.20)
R^2	.071		.092		.287	
BL R^2	.000		.032		.201	
			1981 (288 Firms)			
HC	.178	(3.56)	.252	(5.41)	.248	(5.68)
CF	-.025	(-.27)	.055	(.66)	.225	(2.85)
CD	.028	(.35)	.011	(.14)	.055	(.78)
CDP	-.154	(1.13)	-.112	(-.88)	-.163	(-1.37)
PRE	.075	(.83)	.083	(.99)	.077	(.98)
PREP	.084	(.61)	.080	(.62)	.109	(.91)
POST	-.067	(-.25)	.169	(.68)	-.097	(-.42)
POSTP	-.188	(-.72)	-.213	(-.87)	.059	(.26)
R^2	.079		.125		.161	
BL R^2	.109		.135		.125	

Table 8

Comparison of ASR 190 and Statement 33 Results
1978 and 1979

CAR's				RAW RETURNS			
Var.	Coeff.	T Stat.	Adj. R^2	Var.	Coeff.	T Stat.	Adj. R^2
1978 (190 Firms)							
Stepwise Regressions							
First Variable				First Variable			
PHC	.114	(4.25)	.083	PHC	.110	(4.40)	.089
All Significant Variables				All Significant Variables			
PHC	.083	(2.52)		PHC	.081	(2.61)	
RHG	-.529	(2.11)		RCOPCHG	.786	(1.58)	
RCOPCHG	-.043	(1.74)	.112				.096
1979 (141 Firms)							
Combined ASR 190 and Statement 33 Sample							
Historical Cost Only				Historical Cost Only			
SPHC	.180	(4.68)		SPHC	.212	(5.55)	
FPHC	.260	(1.75)	.130	FPHC	.230	(1.56)	.173
1979 (67 Firms)							
Statement 33 Sample							
Historical Cost Only				Historical Cost Only			
FPHC	.303	(4.30)	.209	FPHC	.406	(6.21)	.363
Historical Cost + Statement 33				Historical Cost + Statement 33			
FPHC	.215	(1.93)		FPHC	.285	(2.82)	
FRCD	-.079	(-.09)		FRCD	1.157	(1.45)	
FRPRE	-.194	(-.22)		FRPRE	-1.026	(1.28)	
FRPOST	.869	(1.60)	.211	FRPOST	.447	(.90)	.381

Table 9

Comparison of ASR 190 and Statement 33 Results
1980, 1981, and 1982

CAR's				RAW RETURNS			
Var.	Coeff.	T Stat.	Adj. R^2	Var.	Coeff.	T Stat.	Adj. R^2
1980 (99 Firms)							
Historical Cost Only				Historical Cost Only			
PHC	.226	(4.66)	.175	PHC	.158	(3.77)	.119
Stepwise Regressions							
First Variable				First Variable			
DRPRE	2.548	(5.57)	.234	DRPRE	1.758	(7.94)	.155
All Significant Variables				All Significant Variables			
DRPRE	1.822	(2.88)		DRPRE	4.781	(3.49)	
RHGP	-.598	(-1.70)		DRHC	-2.258	(-2.94)	
PPOST	.676	(1.43)	.250	PPOST	.012	(2.17)	
				PHC	.271	(2.55)	
				PCD	-.069	(-1.79)	
				DRPREP	-1.401	(-1.42)	.223
1981 (115 Firms)							
Stepwise Regressions							
First Variable				First Variable			
DRHC	1.669	(4.09)	.121	RHC	1.111	(4.19)	.126
All Significant Variables				All Significant Variables			
DRHC	4.748	(5.54)		RHC	1.828	(4.08)	
DRCDP	-3.126	(-3.56)		PPRE	.146	(2.77)	
PHC	-.307	(3.21)		PPOST	-1.282	(-2.57)	
RHG	-.936	(2.43)		PPREP	-.145	(-1.82)	
PCD	.083	(1.96)	.249	DRHC	1.712	(2.82)	
				PHC	-.202	(-2.28)	.280
1982 (86 Firms)							
Stepwise Regressions							
First Variable				All Significant Variables			
DRPOST	.950	(2.51)	.058	DRCF	1.06	(4.35)	.174
All Significant Variables							
DRPOST	-3.201	(-1.07)					
RHGP	-3.318	(-4.71)					
DRHG	5.404	(1.89)					
DRPREP	4.270	(1.49)	.246				

Table 10

Large Sample Results

Stepwise Regressions

CAR's				RAW RETURNS			
1979 (265 Firms)							
First Variable				First Variable			
Var.	Coeff.	T Stat.	Adj. R^2	Var.	Coeff.	T Stat.	Adj. R^2
RHC	1.06	(6.44)	.133	RHC	1.36	(9.22)	.241
All Significant Variables				All Significant Variables			
RHC	.954	(5.74)		RHC	1.24	(4.48)	
RHGP	.817	(3.13)	.161	RHGP	.91	(3.92)	
				RCDP	.46	(1.54)	.285
1980 (259 Firms)							
First Variable				First Variable			
DRHC	1.157	(6.21)	.127	PHC	.206	(6.05)	.121
All Significant Variables				All Significant Variables			
DRHC	1.05	(4.78)		PHC	.11	(2.09)	
RCFP	-.65	(-3.69)		RCDP	1.16	(3.93)	
RCDP	.94	(3.25)		DRPRE	1.51	(3.45)	
DRPOSTP	1.31	(3.80)		RCFP	-.43	(-2.90)	
POSTP	-.08	(-2.19)		DRHGP	1.06	(3.94)	
RHGP	-.46	(-1.99)	.202	PPOSTP	-.09	(-2.81)	.217
1981 (351 Firms)							
First Variable				First Variable			
DRHC	1.198		.135	DRHC	1.229	8.36	.164
All Significant Variables				All Significant Variables			
DRHC	1.42	(7.26)		DRHC	1.305	(6.42)	
RPOST	-.75	(-4.72)		RHG	-.904	(-5.92)	
RCFP	-.30	(-2.44)		PPRE	.090	(2.89)	
PRE	.05	(2.07)	.238	DRCD	-1.668	(-3.20)	
				DRCDP	1.249	(3.59)	
				DRPREP	-.872	(1.94)	.264
1982 (237 Firms)							
First Variable				First Variable			
DRCDP	1.209	(4.21)	.066	DRCD	1.418	(5.64)	.115
All Significant Variables				All Significant Variables			
DRCDP	1.822	(4.50)		DRCD	1.557	(3.16)	
RCDP	-3.152	(-5.01)		DRCF	.490	(2.96)	
RPRE	2.777	(4.14)		PHC	.191	(2.99)	
DRCF	.345	(2.45)		PCDP	-.163	(-2.75)	
PCDP	-.242	(-2.47)		DRCFP	-1.420	(-2.89)	
PCD	.118	(2.95)	.183	DRHC	.993	(2.14)	.176

Table 11

FASB Sample
Test of 1981 and 1982 Using Significant Variables From Prior Years

1981 (351 Firms)

Historical Cost Only

CAR				RAW RETURN			
Var.	Coeff.	T Stat.	Adj. R^2	Var.	Coeff.	T Stat.	Adj. R^2
DRHC	1.198	(7.46)	.135	PHC	.216	(6.94)	.118
All 1980 (Significant) Variables							
DRHC	1.515	(7.56)		PHC	.223	(5.51)	
RCFP	-.345	(-2.55)		RCDP	-.015	(-.07)	
RCDP	-.393	(-2.17)		DRPRE	.661	(1.73)	
DRPOSTP	.057	(.28)		RCFP	-.109	(-.84)	
PPOST	-.009	(-.33)		DRHG	.123	(.64)	
RHGP	-.818	(-3.65)	.228	PPSTP	-.056	(-2.07)	.125
F Statistic		15.668*		F Statistic		1.51	

1982 (237 Firms)

Historical Cost Only

DRHC	.519	(3.39)	.042	PHC	.194	(5.29)	.102
All 1980 (Significant) Variables							
DRHC	.668	(3.08)		PHC	.148	(2.76)	
RCFP	-.236	(-1.09)		RCDP	-.101	(-.34)	
RCDP	-.633	(-1.74)		DRPRE	.801	(2.11)	
DRPOSTP	.522	(1.97)		RCFP	-.044	(-.25)	
PPOSTP	.013	(.33)		DRHG	.363	(1.63)	
RHGP	-.660	(-1.64)	.095	PPOSTP	-.013	(-.41)	.114
F Statistic		3.75*		F Statistic		1.63	
All 1981 (Significant) Variables							
DRHC	.887	(4.61)		DRHC	.239	(1.05)	
RPOST	-.095	(-.34)		RHG	.119	(.54)	
RCFP	-.556	(-2.72)		PPRE	.040	(.97)	
RPRE	.239	(.61)	.070	DRCD	1.027	(1.27)	
				DRCDP	-.213	(-.24)	
				DRPREP	-.025	(-.04)	.106
F Statistic		3.35*		F Statistic		1.22	

*Significant at $\alpha \leq .05$.

Table 12

Correlation Coefficients

1980 (388 Firms)

Market Value Denominators

	CAR's	SAL79	SAL80	EXP79	EXP80	HC79	HC80	DHC	HG79	HG80	PGL79
SAL79	.001										
SAL80	.179	.742									
EXP79	.009	.999	.752								
EXP80	.171	.738	.998	.749							
RHC79	-.217	.440	.048	.409	.024						
RHC80	.175	.105	.041	.087	-.006	.518					
DHC	.399	-.390	-.016	-.372	-.032	-.637	.328				
HG79	.144	.561	.549	.565	.549	.137	.015	-.138			
HG80	.173	.470	.651	.475	.651	.072	.008	-.072	.822		
PGL79	.132	.631	.477	.628	.474	.331	.072	-.300	.619	.568	
PGL80	.168	.456	.551	.464	.562	-.032	-.228	-.170	.586	.646	.834

1981 (421 Firms)
"Own" Denominators

	CAR's	SAL80	SAL81	EXP80	EXP81	HC80	HC81	DHC	HG80	HG81	PPL80
SAL80	.178										
SAL81	.303	.864									
EXP80	.187	.998	.874								
EXP81	.297	.860	.999	.871							
RHC80	-.181	.065	-.182	.019	-.203						
RHC81	.185	.185	.088	.159	.053	.568					
DHC	.381	.089	.295	.120	.288	-.675	.222				
HG80	-.014	.572	.455	.570	.463	.068	-.179	-.241			
HG81	.193	.441	.511	.444	.508	-.045	.102	-.145	.526		
PPL80	-.104	.513	.443	.522	.451	-.178	-.187	.043	.602	.255	
PPL81	.037	.364	.487	.383	.497	-.404	-.255	.250	.341	.248	.654

1982 (221 Firms)
"Own" Denominators

	CAR's	SAL80	SAL81	EXP80	EXP81	HC80	HC81	DHC	HG80	HG81	PPL80
SAL81	.277										
SAL82	.277	.929									
EXP81	.286	.999	.932								
EXP82	.273	.924	.998	.929							
RHC81	-.276	-.072	-.183	-.106	-.211						
RHC82	.082	.096	.019	.076	.027	.601					
DHC	.360	.186	.196	.192	.165	-.203	.660				
HG81	.009	.255	.218	.261	.235	-.192	-.371	-.273			
HG82	.109	.173	.172	.173	.174	-.037	-.040	-.015	.337		
PPL81	-.218	.250	.290	.251	.300	-.063	-.209	-.190	.500	.119	
PPL82	-.202	.234	.371	.239	.385	-.179	-.307	-.208	.391	.135	.865

Table 13

Regressions--Reduced Set of Statement 33 Variables

1980 (388 Firms)

Dependent Variable: CAR's; Market Value Deflators

Historical Cost Variables Only				Historical Cost + Statement 33 Variables				F
Var.	Coeff.	T Stat.	Adj. R^2	Var.	Coeff.	T Stat.	Adj. R^2	
RHC79	-.363	(-7.74)		RHC79	-.439	(-8.20)		
RHC80	.415	(7.24)		RHC80	.462	(7.72)		
				HG79	.217	(1.57)		
				HG80	.100	(.56)		
				PPL79	.027	(.24)		
			.157	PPL80	.096	(.44)	.221	8.98

1981 (396 Firms)

Dependent Variable: CAR's; "Own" Denominators

Historical Cost Variables Only				Historical Cost + Statement 33 Variables				F
RHC80	(-.679)	5.22		RHC80	-.821	(-6.26)		
RHC81	(.007)	.12		RHC81	.005	(.08)		
				HG80	.222	(.39)		
				HG81	.959	(1.80)		
				PPL80	-1.560	(.66)		
			.063	PPL81	-.264	(-3.53)	.113	6.53

1982 (221 Firms)

Dependent Variable: CAR's; "Own" Denominators

RHC81	-.992	(-4.84)						
RHC82	.373	(2.61)		RHC81	-1.184	(-5.46)		
				RHC82	.380	(2.55)		
				HG81	-.083	(-.11)		
				HG82	-1.960	(-1.08)		
				PPL81	-1.246	(-1.40)		
			.083	PPL82	-.083	(-.07)	.101	2.57

Footnotes

1. The market association test for a 1981 accounting rate of return variable uses the 1980 rate of return to proxy for the 1981 expected return. The 1980 rate of return requires the use of a beginning 1980 (end of 1979) denominator.

2. We also found a significant "switch" effect for those firms that changed from ASR 190 to Statement 33 disclosures. We are still evaluating the implications of this finding.

3. Actually, the best 1982 results were obtained when using the BL return measure as the dependent variable. In this case, the RPRE, RCDP, DRCFP, and PPREP variables that entered the stepwise regression resulted in an adjusted R^2 of .432.

4. We note that the results are not as strong for 1982 as compared to 1980 and 1981. Earlier, we commented on the impact of FASB Statement 70 in limiting the sample size for 1982 referenced in Table 10. However, firms exempted from the Statement 33 constant dollar disclosures do continue to disclose a purchasing power gain or loss on net monetary items. Thus, the multinational firms excluded from the 1982 tests reported in Table 10 could have been included in the sample reported in Table 13. The 1982 sample would have been increased from 221 to 384 firms. Results based on this larger sample are surprising. There is absolutely zero explanatory power for regressions containing historical cost variables only and also for the regressions where the HG and PPL variables are added. The reason for this anomalous result when the multinational firms are included in the sample is a question that requires further research.

References

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Appendix A

ERRORS DISCOVERED IN USING THE FASB33 DATA TAPE

The following errors were discovered while using the FASB #33 data tape in this project. These errors are in addition to those documented by Stone and Bublitz (1984).

1. Errors in restating the data to a constant price level.

According to page 18 of the manual, current cost inventory, property and equipment, net assets, and constant dollar net assets have all been restated to 1982 year-end dollars. In the previous tape, these variables had been restated to the 1980 year-end price level. We discovered a mistake in the restatement of the 1981 variables in the previous version of the data tape and reported it to the FASB. Unfortunately, the error remains on the 1982 tape. To illustrate this error, the restatement of these four variables for three companies in both 1980 and 1981 is compared below. The four variables studied can be defined as follows:

Original Variable	Restated Variable	Defined
NB27	INVCC	Current cost inventory
NB28	PPECC	Current cost plant and equipment
NB29	NACD	Constant dollar net assets
NB30	NACC	Current cost net assets

All of these variables are restated on the most recent version of the data tape to 1982 year-end dollars. The following indexes are identified on the tape:

Index identification	Defined	Index
G	1980 average	246.8
H	1980 year end	258.4
I	1981 average	272.4
J	1981 year end	281.5
	1982 average	289.1
	1982 year end	292.4

Company	Year	NB	Price Code	Original Amount	Factor	Restated Amount	Restated Amount per tape
ACF	1980	27	G	233.80	292.4/246.8	277.00	277.00
		28	G	1068.89	292.4/246.8	1266.38	1266.38
		29	G	771.38	292.4/246.8	913.90	913.91
		30	G	860.11	292.4/246.8	1019.03	1019.03
	1981	27	J	277.66	292.4/281.5	288.41	301.95*
		28	J	1142.74	292.4/281.5	1186.99	1187.00
		29	J	861.16	292.4/281.5	894.51	1026.46*
		30	J	907.20	292.4/281.5	942.33	1032.86*

Company	Year	NB	Price Code	Original Amount	Factor	Restated Amount	Restated Amount per tape
AMF	1980	27	H	292.00	292.4/258.4	330.42	330.42
		28	H	518.00	292.4/258.4	586.16	586.16
		29	G	665.00	292.4/246.8	787.87	787.87
		30	G	748.00	292.4/246.8	886.20	886.21
	1981	27	J	232.00	292.4/281.5	240.98	252.30*
		28	J	494.00	292.4/281.5	513.13	513.14
		29	I	647.00	292.4/272.4	694.50	797.05*
		30	I	662.00	292.4/272.4	710.60	778.97*
Abbott Labs	1980	27	H	403.30	292.4/258.4	456.37	456.37
		28	H	894.20	292.4/258.4	1011.86	1011.85
		29	G	1240.30	292.4/246.8	1469.46	1469.47
		30	G	1300.00	292.4/246.8	1540.19	1540.19
	1981	27	J	433.00	292.4/281.5	449.77	470.88*
		28	J	1083.30	292.4/281.5	1124.94	1125.25
		29	J	1424.70	292.4/281.5	1479.87	1698.17*
		30	J	1484.40	292.4/281.5	1541.88	1690.01*

* major difference

We were able to reproduce the four numbers in 1980 and one of the variables in 1981. However, we were not able to understand how the other three 1981 variables had been restated, and repeated enquiries to the FASB failed to provide an anwer. Again this error appears to be in both the 1981 and the 1982 versions of the tape.

2. Problems with Lower Recoverable Amounts

Our difficulties with utilities and the provision for lower recoverable amounts are best illustrated by American Electric Power. In 1979, AEP did not disclose current cost data as is correctly shown on the tape. The company did disclose net assets in 1979 at the net recoverable amount. In 1979, AEP showed net assets as $2,969.000 million, but the tape showed $3.94 million. The tape apparently picked up the 1979 net asset amount (with an incorrect decimal) from the 1980 report which showed $3,939.000 million. The 1980 net assets was show in the annual report as $3,491.000 million but on the tape as $3.4 million. These errors of several billion dollars were reported to the FASB when discovered on the 1981 tape but still are on the 1982 tape.

In 1981, the FASB began recording the net assets correctly, but it began recording these variables under NB33 and NB34 which are supposed to be the variables for the Reduction to Lower Recoverable Amounts. The reduction to lower recoverable amounts is shown in all years in NB31 and NB32 which are supposed to be the variables for the lower recoverable amounts. Therefore, the lower recoverable amount is shown under net assets in 1979 and 1980 and under the reduction to lower recoverable amounts in 1981 and 1982. Sometimes a

larger number that cannot be found in the annual report appears in net assets after 1980, but we do no know the source of this number.

In 1979 and 1980 the reduction to lower recoverable amounts has been deducted from net income from continuing operations on a constant dollar basis but not on a current cost basis. Beginning in 1981, the reduction to lower recoverable amount is no longer deducted from net income from continuing operations. We have checked many other utilities, and these inconsistent policies are common to all of them.

3. Miscellaneous errors

The following are several miscellaneous problems discovered using the data tape. No systematic method was used to investigate the tape, but the data for many outliers were checked. We did a very limited check of utilities because we eventually decided to exclude them from the sample.

Allied Telephone--In 1982, NB32 should have been -.403 million dollars but was shown on the data tape as -4.03 million dollars.

American Waterworks--This company did not disclose a reduction to lower recoverable amounts in the 1979 annual report, but did report one for 1979 in the 1980 report. Therefore, NB07 has a reduction to lower recoverable amounts deducted in 1980 but not in 1979, 1981, and 1982. In 1981 and 1982, the lower recoverable amount was recorded under both net assets and the reduction to lower recoverable amounts. We were not able to reconcile the following variables: For 1980 NB08, we get a loss of $26.431 million recorded in the annual report plus the preferred stock dividends which had been deducted ($1.930 million) for a revised loss of $24.50 million. The tape shows a loss of $26.2 million. In 1981 we get NB07 to be $2.27 million while the tape shows $5.6 million.

Braniff--1981 data are shown as missing although we found FAS 33 data in the 10-K report.

Century Telephone--In 1980, NB07 (income from continuing operations on a constant dollar basis) seems to have prefered stock dividends deducted. The loss shown in the annual report is $13.412 million, but it is shown on the tape as $87.77 million.

Chrysler--In 1979 NB07 was shown in the annual report as a $1462.300 million loss, while the tape picked up the 1979 loss recorded in the 1980 annual report of $1245.7 million.

Gas Services--In 1981 NB29 (constant dollar net assets) shows the historical cost net assets. The lower recoverable amount is shown under the reduction to lower recoverable amounts. The lower recoverable amount for current cost data is shown on the tape as missing, although it is given in the annual report.

Missouri Public Service--The net assets at lower recoverable amounts in 1980 seem to be the comparative 1979 amounts.